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Financial Analysis of Daimler Company
Finanční analýza společnosti Daimler

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The declaration

"Herewith I declare that I elaborated the entire thesis, including all annexes independently."

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Contents:

1. Introduction

This thesis focus on how to evaluate financial condition of Daimler Company by using financial analysis. Financial analysis formulates the assessment of the company's present and future financial position,which is based on financial statement and accounting data. Financial analysis is used to analyze and evaluate profitability, operation capacity and solvency of enterprises' financial activities, investment activities and operating activities by adopting a series of specific financial analysis methodology. It can help investors, creditors, operators and other organizations or individuals who are interested in the certain enterprises understand the status of this company. People also can predict the future of the company from consequence of financial analysis.

The aim of this thesis is evaluating financial condition of Daimler company from 2011 to 2015 by using common-size analysis, financial ratios and pyramidal decomposition.

This thesis will be divided into five parts. The first chapter is introduction and the last chapter is conclusion. The second chapter is description of financial. The third chapter is about Daimler company. The fourth chapter is calculations and evaluation.

In chapter 2, firstly, it will describe the analysis methodology of financial statements. There are three financial statements: balance sheet, income statement and cash flow statement. Secondly, we will introduce two aspects of common-size analysis: horizontal common-size analysis and vertical common-size analysis. Next, we will introduce four types of financial ratios: profitability ratios, liquidity ratios, solvency ratios and assets management ratios. There are many formulas to calculate these ratios. Then, we will introduce the DuPont analysis. It is the fundamental example of pyramidal decomposition. Finally, it is three methods of influence quantification: method of gradual changes, logarithmic decomposition method and functional decomposition method.

In chapter 3, we will introduce financial characteristics of Daimler company from two aspects. The first part is company profile. It includes history, structures and competitions of Daimler company. Then, we will find out the balance sheets and income statements of Daimler company from 2011 to 2015. we will take horizontal and vertical common-size analysis to analyze the changes and tendency between 2011 to 2015 by using simplified

balance sheet and income statement of Daimler company.

In chapter 4, we will use four types of financial ratios to evaluate Daimler company's financial health. We will calculate profitability ratios, liquidity ratios, solvency ratios and asset management ratios from 2011 to 2015 and compare changes and the normal ranges in the same industry. And then, we will use DuPont analysis to know how the different items change ROE.

2. Description of the Financial Analysis Methodology

In this chapter, The different financial analysis methodology and the meaning of them will be introduced. The first part will talk about three types of financial statement. They are the most fundamental method of financial analysis methodology. Next is common-size analysis. It is analysis of financial statements data and their changes over the time. The last is financial ratios analysis. We compare financial data in the form of financial ratios to assess the financial position of the company.

Financial analysis methodology is an activity of evaluating the company's operation, expenses management, credit policy, credit worthiness and other economic decisions. It uses a series of analysis technology and method to analyze and evaluate a company's investment activities, financing activities, operating activities, abilities of working, debt paying and ascending. It is vital that we must choose the reasonable financial analysis methodology or tool and understand the information provided in each company's financial reports.

2.1 Financial statement

Financial report of companies can provide information about their financial position and changes of financial position that is useful for many people to make economic decisions. There are three basic financial statements analyzing the information and data about a company. They are balance sheet, income statement and cash flow statement.

2.1.1 Balance sheet

The balance sheet is also called statement of financial condition. It is the major fiscal statement that presents the financial position of assets, liabilities and owners' equity at a given point in time. It is a static statement. And we can see the example of balance sheet in Tab. 2.1.

Tab 2.1 An example of the balance sheet

Balance sheet	
Assets	**Liabilities**
Current assets	**Current liabilities**
Cash an equivalents	Accounts payable
inventories	Accrued expenses
Account receivable	Short-term notes
Other current assets	Other current liabilities
Fixed assets	**Long-term liabilities**
Trademark	Long-term obligations under capital leases
Goodwill	Deferred income taxes and other
Equipment,lands,buildings	**Equity**
Investments in associates	Common share
Other fixed assets	Preferred share
	Retained profits
	Profit of the current year
Total assets	**Total liabilities and equity**

Source: John Wiley and Sons, Inc. Hoboken, New Jersey(2009).

In balance sheet, the basic equation is

$$total\ assets = total\ liabilities + total\ equity. \tag{2.1}$$

Asset of balance sheet reflects the resources that is formed by the past transactions and owned or controlled by the company at a given point in time. And the resources is expected to bring economic benefits. Assets are generated either by investing activities, operating activities and financing activities. Assets are divided by two types: current assets and fixed assets. Generally, current assets consist of cash and cash equivalent, inventories, receivables, prepaid expenses and other current assets with maturity shorter than one year. Current assets are always held for transaction or assets that expected conversed into cash within one year. Current assets have high liquidity because they are in the form of cash or can be relatively quickly converted into cash. Fixed assets include long-term assets. They have long life and low liquidity. Fixed assets consist of tangible(equipment, land, building, ect.) and intangible assets (trademark, patents, goodwill and so on). And they also have investments in securities

and assets of other firms.

Liabilities reflect the present obligation ,which is undertaken by the enterprise and expected to result outflow of company's benefits. It is money that company has been borrowed and must be repaid back at some predetermined date. It can be classified into current liabilities and long-term liabilities. Current liabilities are the liabilities that must be paid back within one year. It includes accounts payable, accrued expenses and short-term notes. Long-term liabilities include money that has been borrowed for longer than one year. They have loans from banks, issued bonds and so on.

Equity represents the capital belonging to the owners or shareholders of the company. It includes common shares, preferred shares, retained profits and profit of the current year.

The balance sheet is a snapshot, representing the state of a company's finances at a given point in time. It cannot give a sense of the trends that are playing out over a longer period. So the balance sheet should be compared with those of previous periods.

2.1.2 Income statement

Income statement is also called profit and loss statement(P&L statement). It compares the company´s revenues and company costs and the profit or loss during a particular period. It is a dynamic statement.

The following income statement is a very brief example prepared in accordance with international financial reporting standards. It is shown in Tab. 2.2.

Tab 2.2 An example of the income statement.

Revenue
Cost of services
Gross profit
Selling, general and administrative expenses
Income from operating
Interest income
Interest expense
Other expense
Income before provision for income taxes and minority interest
Provision for income taxes
Income before minority interest
Minority interest
Net income

Source: John Wiley and Sons, Inc, Hoboken, New Jersey(2009).

The basic equation underlying the income statement is:

$$net\ income/loss = Revenues - costs\ . \tag{2.2}$$

Income statement reflects the condition of revenues, costs, expenses and taxes of company. Income statement is divided into two parts according to constitutions and contributions of profits. In constitutions of profit, revenues from sale of goods or services minus costs associated with ordinary activities is the sum of profits or loss. In contributions of profits, EAT=EBT-T. If there is residue after allocation of net profit for dividends payable and provident fund, it is called undistributed profit.

By using income statement, we can analyze reasons of changes of profits, cost of operating activities and assess the value of investment. The data in income statement influences many benefits of enterprises directly, like the taxes, wages and salaries of employees and dividends of shareholders. We can analyze and evaluate the profitability.

According to comparing revenues, cost and profits, we can assess performance and efficiency of management of company.

2.1.3 Cash flow statement

The last financial statement is cash flow statement. It reflects changes of cash in balance sheet and income statement. The cash flow statement divided company's cash flows into operating activities, investing activities, financial activities. Cash flow from operating activities includes inflows and outflows from day-to-day company's activities. Cash inflows come from sales of goods and services, collection of receivable. Cash outflows come from payments for inventory, salary and wages payments, taxes, paying payable and so on.

Cash flow is an important concept in finance. It is generic terms of cash outflow and inflow because of companies' operating activities, investment activities and financial activities during a particular period. The cash flow statement is a Cash basis of accounting report, which excludes transactions that do not directly affect cash receipts and payments.

Investing activities involve inflows and outflows from acquisition and disposal of tangible and intangible assets and long-term investment. Cash flow from financing activities are activities associated with obtaining and repaying capital such as long-term debt or equity. There are two formats of cash flow from operating activities. The direct method is shown in Tab. 2.3.

Tab. 2.3 An example of the cash flow statement.

Cash flow from operating activities
Cash receipts from customers
Cash paid to suppliers and employees
Dividends received
Net interest and other financial expense paid
Taxes paid
Net cash flows from operating activities
Cash flows from investing activities
Proceeds from the sale of equipment
Dividends received
Net cash flows from investing activities
Cash flows from (used in) financing activities
Proceeds from issue of stock
Proceeds on loans, credits and promissory nots
Dividends paid
Net cash flows from financing activities
Net increase in cash and cash equivalents during the year
Cash and cash equivalents at beginning of year
Cash and cash equivalents at End of Year

Source: John Wiley and Sons, Inc, Hoboken, New Jersey*(2009)*.

In the cash flow statement, The basic equation is:

$$\textit{Net cash flow=sum of inflows-sum of outflows ,} \tag{2.3}$$

$$\textit{Cash at the end=cash at the beginning+(-)net cash flow ,} \tag{2.4}$$

$$\textit{Total cash flow = cash flow from operating activities + cash flow from investing activities + cash flow from financing .} \tag{2.5}$$

As an analytical tool, the statement of cash flows is useful in determining the

short-term viability of a company, particularly its ability to pay bills. And it is also significant to a company's long-term success. Using cash flow statement helps investors evaluate the company's liquidity, solvency and financial flexibility. It is an important index which can measure if the company works good and has enough cash to repay the debt.

2.2 Common-size analysis

Common-size analysis is one of the most essential analysis methodology to know percentage of different assets, liabilities, costs and expenses in financial statement.

Common-size analysis make it easier to compare proportions of total assets or liabilities over the time. It helps investors identify the changes and tendency by means of processing and calculating the raw data from financial statements. In balance sheet, total assets is seen as benchmark. And investors calculate proportions of different assets in total assets. By comparing the proportions, we can know the structure of assets.

There are two types of common-size analysis. They are horizontal common-size analysis and vertical common-size analysis.

2.2.1 Vertical common-size analysis

Vertical common-size analysis is an analysis that identifies one certain item in the proportions of selected benchmarks. It shows the structure of total assets, total liabilities or total revenues. It also reveals position and significance of the item in them. Usually, the larger the proportion of the item is, the more important it takes. The influence of it is larger to the company.

In balance sheet, it divides each item by the same period's total assets and expressing the results as percentages, highlights the composition of the balance sheet. In income statement, it divides each income statement item by revenue. If there are multiple revenue sources, a decomposition of revenue in percentage terms is useful.

If E% means the proportion of one certain item. Xi is amount of the item. $\sum X_i$ means total amount of item, like assets and liabilities. The basic equation is:

$$E\% = \frac{X_{\mathrm{i}}}{\sum X_i} \cdot 100\,. \tag{2.6}$$

Using this equation, the proportions of each item can be calculated.

2.2.2 Horizontal common-size analysis

Different from vertical common-size analysis, horizontal common-size focuses more on comparing financial statements data over the time or their changes to a given period as a benchmark. The earliest period is usually used to be the base period. Generally, horizontal common-size analysis is not only comparing single item. It reflects all-sided, comprehensive comparison in one aspect financial statement. Horizontal common-size analysis shows the trend of company's development. It helps manager of company finding underlying problem according to changes of the data.

Absolute changes and relative changes are computed by using the following formulas:

$$Absolute\,change \;=\; U_t - U_{t-1}\,, \tag{2.7}$$

$$\mathrm{Re}lative\,change \;=\; \frac{U_t - U_{t-1}}{U_{t-1}} \cdot 100\%\,. \tag{2.8}$$

In the equations, U_t is amount of the item year. U_{t-1} is amount of the item in base year.

It seems easier that using these formulas to evaluate the trend situations. The horizontal common-size analysis compare changes between different period enabling people to look at how an item has change relative to total items.

Combining both vertical common-size analysis and horizontal common-size analysis can help manager of company compare and evaluate structure of items. It also can compare with other companies in the same industry to find the advantages and gaps, and helps company make decisions.

2.3 Financial ratios analysis

Financial statement analysis should not be limited to the assessment of sources and uses of funds. Financial ratio analysis is another tool which by means of comparing financial data in the form of financial ratios to assess the financial health of the company. It is a useful way to express relationships between financial accounts. The ratio is an indicator of some aspect

of the company's performance and the value of company and security.

In the following, there are four groups of financial ratios: profitability ratios, liquidity ratios, solvency ratios and asset management ratios(it is also called activity ratios.)

2.3.1 Profitability ratios

Profitability ratio provides information on the company´s ability to generate profit from invested capital. These ratios compare components of income with sales. It is the core that a company cares about. The higher the profitability ratios, the better competitive position of the company has. If a company wants to work continuously, it must keep profiting chronically. So, it is very important for investors and creditors.

It's in the numerator that we reflect and thus evaluate performance for different aspects of the business:

The **Gross profit margin** (GPM) is the ratio of gross income or profit to sales. The ratio indicates how much of every dollar of sales is left after costs of goods sold. Gross profit margin plays a role as a source of extra expenses and future savings.

It is calculated as:

$$GPM = \frac{gross\ profit}{total\ revenues}. \tag{2.9}$$

From the formula, it is obvious that gross profit is relative with the amount of products that company has sold, cost of operating activities and price of goods. Even though the gross profit margin is not an precise estimate of the company's financial position, it does give a good sign of the company's financial health. If there is not enough gross profit margin, the company will be not able to pay its operating expenses and other expenses. Gross profit margin reflects appreciation of the part that a product after production and processing. The more profit margin is, the more appreciation of the product makes.

The **Operating profit margin (OPM)** is a ratio that indicates how well the company manages its businesses. It measures how much operating profit per one unit of revenues after operating expenses and costs.

The equation is showed as the following:

$$OPM = \frac{EBIT}{total\ revenues}. \tag{2.10}$$

EBIT is abbreviation of *earning before interest and taxes*. It is also called as operating income. Operating profit could be considered as gross income,which from the goods and services of company before expenses of taxes, dividends of stockholders and interest from debt. The factors that could influence the operating profit margin are the number of products have sold, the price of goods, the costs of per unit products and the abilities to control expenses of management and operation. If a company is able to pay for its fixed costs, like expenses of taxes,it means that it has a good operating margin. If a company has a higher operating margin, it means that the company has less financial risk. This ratio reflects manager's ability to gain profit when consider operating cost.

The **Net profit margin (NPM)** measures how much net profit as a percentage per one unit of revenues. its formula is:

$$NPM = \frac{EAT}{total\ revenues}. \tag{2.11}$$

EAT means earning after taxes. It is also called as net profit. EAT is considered as total revenues after all operating expenses, costs, taxes, interest from debt and dividends of preferred shares. How much net profit margin of the company gains depends on two factors. The first factor is operating profit. Another is tax rate. Tax rate is enacted by government. The higher tax rate is, the less net profit company gains. Shareholders look at net profit margin closely because it shows how good a company is at converting revenues into profits available for them.

The **Return on assets (ROA)** measures net profit as a percentage for each unit of company's assets. It reflects the relative efficient use of assets.

The formula is:

$$ROA = \frac{EAT}{A}, \tag{2.12}$$

And there is another formula:

$$ROA = \frac{EBIT}{A}. \tag{2.13}$$

The assets are composed of debt and equity. ROA of companies could be different. And it depends highly on the industry. So it is the best measure to compare it against a company's

previous ROA data or the ROA of similar companies. For investors, the return on assets gives them a standard to evaluate how effectively the company to invest its money into net income. The high return on assets means the company can earning more money when it has the same amount of investment comparing with other companies.The higher the return on assets, the better efficient use of assets is.

The **Return on equity (ROE)** is a ratio that measures a firm's efficiency of the money that shareholders invested.

It is expressed as a percentage and calculated as following:

$$ROE = \frac{EAT}{Equity}. \tag{2.14}$$

Return on equity is an important indicator that evaluates how much return common shareholders could gain. Generally, if a company has high return on equity, it will be more attractive to investments. Because high return on equity shows this company could use the investment funds effectively. In order to know whether stability, development and return rate could keep in a high level, analyst should compare present return on equity with previous return on equity.

The **Return on invested capital (ROIC)** is a ratio that measures the net profit per unit of invested capital can obtain.

The formula is:

$$ROIC = \frac{Net\ Operating\ \mathrm{Pr}ofit - Adjusted\ Taxes}{Invested\ Capital}. \tag{2.15}$$

Return in invested capital is index that measures the operating results which company use its all capital can gain. In stock market, return on invested capital is one of standards if a company can public offer its stocks. A high return on invested capital means the efficiency of company's capital is high. on the contrary, a low return on invested capital means the capital of company is underutilized.

2.3.2 liquidity ratios

Liquidity ratios measure company´s ability to meet its immediate and short-term obligations. It is an important ratio to evaluate the liquidity of a company. There are three commonly used liquidity ratios: current ratio, quick ratio and cash ratio.

The **current ratio** is a ratio that measures a firm's ability to pay short-term liabilities.

The formula to calculate a company's current ratio is:

$$current\ ratio = \frac{current\ assets}{current\ liabilities}. \tag{2.16}$$

The current ratio is mainly used to help company evaluate its ability to pay back its short-term liabilities with its current assets, like cash and cash equivalent. The higher the current ratio, the better the capable of paying its immediate and short-term obligation is. But it should be noted that high current ratio is not necessarily means the company has enough cash to pay for debt. Because current assets conclude inventories, accounts receivable and other items except cash. So it is also important to analyze items of current assets. For an enterprise, the ratio under 1 indicates that its current liabilities are larger than its current assets. It means this enterprise has problem that it would not be able to pay its obligation. It shows that the company is not in good financial healthy.

The **Quick ratio** measures the company's ability to meet its short-term liabilities with its current assets which part can convert into cash.

It is computed as following:

$$Quick\ ratio = \frac{current\ assets - inventories}{current\ liabilities}, \tag{2.17}$$

It also can be showed as:

$$Quick\ ratio = \frac{cash + accounts\ receivable}{current\ liabilities}. \tag{2.18}$$

Comparing to current ratio, quick ratio deducts some assets with poor liquidity, like inventory. It is more stringent to evaluate a company's liquidity. For example, if the quick ratio is 2 means that a company has $2 of liquid assets available to cover each $1 of current liabilities. If the quick ratio is lower than 1, it means that the company has not liquid assets to pay off the short-term liabilities. The company could sell its inventories to meet this need.

In **cash ratio** we work assets that are in the form of cash and cash equivalent. The cash ratio is most common used to measure a company's liquidity since only cash and cash equivalents are compared with the current liabilities. It reflects the ability of a business to pay off its current liabilities only by the cash and cash equivalent.

Cash ratio is calculated as the following formula:

$$Cash\ ratio = \frac{cash + market\ securities}{current\ liabilities}. \quad (2.19)$$

The cash ratio is more conservative to evaluate a company's ability to pay off its liabilities than other liquidity ratios. Because inventories and accounts receivable occupy the most part of many companies' current assets, cash ratio could not be used to determine the value of company. It is only as one element in liquidity. And factors that can influence demand of currency also can influence the cash ratio.

For example, if a cash ratio is under 1, it means that the cash and cash equivalent can cover the current liabilities. Creditors usually prefer high cash but companies do not like to keep much cash because they can use a portion of cash to get profit. That means the cash flow is normally below 1.

2.3.3 Solvency ratios

Solvency ratios is also called as leverage ratios. It measures company's ability to meet its long-term obligations. Solvency ratios have two types. The first type is debt ratio, which focus on the balance sheet and amount of debt to equity or assets. The second type is coverage ratios, which focus on the income statement and measure the ability of a company to cover its debt payments. Both of these two types are useful to assess a company's solvency.

The **Debt ratios** are ratios that measure a company's financial leverage. This ratio reflects how much debt the company has on its balance sheet to its total assets. It examines the percentage of the company's assets in financed by debt.

The formula of debt ratio is :

$$Debt\ ratio = \frac{total\ debt}{total\ assets}. \quad (2.20)$$

From above formula we can know if debt ratio is 0.6, the company should pay 60% of assets back to debt. A higher percentage of debt ratio is more risk for equity investors. Debt holders often have priority to company's assets if the company bankrupt. So it is a vital ratio for investors to determine whether they should invest. If the ratio is 1, it means that all the assets is debt. If the ratio is 0, it means the company has no debt.

The **debt-to-equity ratio** relates to the amount of the company's debt which is also related to equity. This ratio is calculated by dividing a company's total liabilities by its shareholders' equity. It indicates how much debt that a company has financed for its assets relative to the amount of its shareholders' equity.

The formula that calculates debt-equity ratio can be represented in the following way:

$$Debt\ to\ equity = \frac{total\ debt}{equity}. \tag{2.21}$$

It is similar to the debt ratio. For example, if debt to equity ratio is 1, it means the debt that the company has financed for assets is equal to equity of the company. This condition is the same with debt ratio is 0.5. if debt to equity ratio is higher than 1, the company has more debt for assets financing equity. On the country, if debt to equity is lower than 1, the debt is less than equity.

Debt to equity reflects a company's capital structure by using the proportion of capital that borrows from others in owners of capital. A high debt to equity ratio is often associated with high level of risk. But if debt to equity is low, it is harm for the company's profitability. If the amount of earning is more than the interest of debt, shareholders could gain more dividends. But if the earning is less than the interest on debt, the value of stocks would decline.

The **financial leverage ratio** reflects the ratio the company financing through debt.

The formula can be showed as:

$$Financial\ leverage = \frac{Total\ assets}{Total\ equity}. \tag{2.22}$$

Financial leverage is a measure that a company use debt to adjust equity gains. No matter how much the profit is, interest of debt and dividend of preferred stocks are fixed. When earning before interest and taxes is increasing, fixed financial costs borne by per unit profit will be reduced. It can bring more profit to common stocks shareholders. A high financial leverage ratio means the cost of interest is high. It will lead to a low ROE.

The **interest coverage** is the ratio that shows the number of times that the company's

operating profit is able to meet current interest payments.

The method for calculating interest coverage ratio could be represented as the following formula:

$$Interest\ \text{cov}erage = \frac{EBIT}{\text{int}erest\ \ paid}. \tag{2.23}$$

Interest coverage ratio is the ratio of earning before interest and tax that can be pay for interest and interest that the company should pay in a given period. The company's interest coverage ratio is low means its debt expenses is high. For example, if interest coverage is 2.5, it means that 40% of the company's operating profit is consumed interest paid. There is not many profit to meet shareholders' dividend and other needs. The company's risk for default is too high. Generally, 2.5 is often considered as a warning sign. When the ratio is 2.5 or less, the company should be careful for its further. And the 1.5 is the minimum number in this ratio.

2.3.4 Asset management ratios

The usage of a company's assets determines the working of the company. And assets management ratio reflects the efficiency of assets usage. It is also called activity ratios.

These ratios are important in determining whether a company's management is doing well of its revenues, cash and so on. Companies always try to turn their products in to cash or sales as fast as possible because they want higher revenues. These ratios are frequently used when performing fundamental analysis on different companies.

The **inventory turnover (IT)** is a measure of the number of times inventory is sold or used in a time period such as a year.

It can be calculated as:

$$IT = \frac{sales}{inventory}. \tag{2.24}$$

However, it may also be calculated as:

$$IT = \frac{\text{cos}ts\ of\ \ goods\ sold}{average\ inventory}. \tag{2.25}$$

Both of these two calculations is feasible. Even though the first formula is more

commonly used, sales could be substituted by costs of goods sold. Because the ending inventories would change with time went, using average inventory can minimize seasonal factors. Inventory turnover ratio reflects the level of inventory's management of company. It affects the company's ability to pay off its short-term abilities.

A low ratio implies poor sales and excess inventories. And a high ratio implies not only strong sales but also ineffective buying. The lower the occupancy of inventory, the higher the liquidity of the company is. But a high ratio also indicates the company does not have enough inventories, so the revenues would be impacted badly.

The **Days sales of inventory (DSI)** means the number of days from company gains inventories until it sales all of them.

The formula is showed as following:

$$DSI = \frac{Inventory}{Cost\ of\ Sales} \cdot 365. \tag{2.26}$$

Days sales of inventory can be used to evaluate the level of management of inventories. The lower the days sales of inventory are, the higher the inventory turnover is. It means the occupancy of inventories is low, liquidity of inventories is good and the speed of inventories convert into cash or accounts receivable is fast. It is not only a factor that influences a company's ability to pay off short-term liabilities, but also an important standard of company's management. On the other hand, it can measure the cashability of inventories. If inventories are sold well, the days sales of inventory are little. The cashability of inventories is good.

The **receivable turnover ratio (ART)** is also called accounts receivable turnover. It a ratio that measures how many times the receivable are rolled over during a year. It can be computed by dividing the net credit sales by the average account receivable during a given period.

The method for calculating receivables turnover ratio could be represented in the following formula:

$$ART = \frac{net\ credit\ sales}{average\ accounts\ receivable}. \tag{2.27}$$

A high receivable turnover ratio implies a lot of things about company. For example, the higher the receivable turnover ratio, the more efficient the company's collection of accounts receivable is. And it also means that the firm has a high proportion of high-quality customers to pay off their debt quickly. A low ratio suggests the company may have a bad credit policy or customers.

The **Average collection period (ACP)** measures the conversion of accounts receivable in to cash. It is amount of time that it takes to collect the company's receivable.

The method for calculating average collection period could be showed as the following formula:

$$ACP = \frac{accounts\ receivable \cdot days}{revenues}. \tag{2.28}$$

Average collection period is relative to the accounts receivable turnover. A low average collection period means it takes less time to turn the company's receivables into cash. It is good for a company because every business needs cash to pay its own expenses.

The **payable turnover** indicates the number of times the company pays its average account payable per period .

The formula is :

$$Payable\ turnover = \frac{total\ \text{sup}\ plier\ purchases}{average\ account\ payable}. \tag{2.29}$$

A high accounts payable turnover ratio means that the company pays accounts payable rapidly. It suggests the company may have a better credit or liquidity than other companies in the same industry. The opposite is that a low ratio implies the company takes a long time to pay off its suppliers.

The **Days payable outstanding (DPO)** is used to measure how long the company need to pay off the payable that it owe to suppliers.

The calculation is showed as following:

$$DPO = \frac{account\ payable}{\text{sup}\ plier\ purchases} \cdot 365. \tag{2.30}$$

Generally, the longer the days payable outstanding are, the better the company's credit. Long days payable outstanding means the company could use payable to supple working capital without loaning from banks. In the same industry, a company which has high days payable outstanding always has a high status and a good credit.

Working capital turnover indicates how effectively a company uses its working capital to gain income by selling products.. Working capital is defined as the difference value that current assets minus current liabilities.

The method for calculating working capital turnover ratio can be represented with the following formula:

$$Working\ capital\ turnover = \frac{sales}{working\ capital}. \tag{2.31}$$

A high working capital turnover ratio indicates that a company is using less capital but generating a lot of sales. This ratio is used to analyze the relationship between the working capital sales.

The **total assets turnover (TAT**) is a ratio which tells whether the company generates revenue by using its assets effectively.

The method for calculating total assets turnover ratio can be represented with the following formula:

$$TAT = \frac{revenues}{total\ assets}. \tag{2.32}$$

For example, if the ratio is 1.6, it means each unit invested in assets generates revenues of 1.6. A high ratio indicates a good performing. Generally, a high total assets turnover shows the company be good at sales and efficiency of asset utilization is high. It is always used among different companies within the same industry.

The **fixed assets turnover (FAT)** is a ratio that sales revenues of a company divided into fixed assets. It means the number of times that fixed assets have enough to meet the need in a given period, or revenues which per unit fixed assets support.

The formula is showed as following:

$$FAT = \frac{revenues}{fixed\ assets}. \tag{2.33}$$

Fixed assets turnover is mainly used to analyze efficiency of usage of fixed assets, like factories and equipment. A high fixed assets turnover ratio means the management of factories and equipment is good. If fixed assets turnover is lower than other companies in the same industry, it signifies the company has a low utilization of fixed assets. It might influence the profitability of the company.

2.4 DuPont analysis

DuPont analysis is also known as DuPont equation or DuPont model. It enables to analyze what influences the value of financial ratios. It is expressing basic ratio as a product of component ratio. In DuPont analysis, it breaks down return on equity in to three parts.

$$ROE = \frac{Net\ profit}{Equity}. \tag{2.34}$$

$$ROE = \frac{Net\ income}{\mathrm{Re}venues} \cdot \frac{\mathrm{Re}venues}{Total\ assets} \cdot \frac{Total\ assets}{Equity}. \tag{2.35}$$

The $\frac{Net\ income}{\mathrm{Re}venues}$ is net profit margin. $\frac{\mathrm{Re}venues}{Total\ assets}$ is assets turnover. And $\frac{Total\ assets}{Equity}$ is financial leverage.

If we want to know how taxes and interest effects ROE, we can decompose the profit margin as follows:

$$\frac{Net\ income}{\mathrm{Re}venues} = \frac{Netincome}{EBT} \cdot \frac{EBT}{EBIT} \cdot \frac{EBIT}{\mathrm{Re}venues}. \tag{2.36}$$

$\frac{Net\ income}{EBT}$ is tax burden. $\frac{EBT}{EBIT}$ is interest burden. $\frac{EBIT}{\mathrm{Re}venues}$ is operating

margin.

And after substitution them into DuPont analysis we can get,

$$ROE = \frac{Net\ income}{EBT} \cdot \frac{EBT}{EBIT} \cdot \frac{EBIT}{\text{Re}venues} \cdot \frac{Total\ assets}{Total\ assets} \cdot \frac{Total\ assets}{Equity}. \qquad (2.37)$$

$$ROE = Tax\ burden \cdot \text{int}erest\ burden \cdot EBIT\ m\text{arg}in \cdot Assets\ turnover \cdot Financial\ leverage. \qquad (2.38)$$

From the decomposition which have expressed above, we can see that ROE effects of tax burden, interest burden, EBIT margin, assets turnover and financial leverage. And we can evaluate ROE from these factors.

2.5 Influence quantification

Influence quantification is able to analyze the indicator, which can change the basic ratio with changes of itself. There are three methods for quantification of influence. They are methods of gradual changes, Logarithmic decomposition method and functional decomposition method.

2.5.1 Method of gradual changes

The method of gradual changes is method that can quantify the change in the basic ratio caused by the change in the component ratio. Supposing decomposition with 3 component ratios, we can describe it like the formulas in the following. In these formula, X means basic ratio. ΔX is absolute change in the basic ratio. The "a" means component ratio. The Δa is absolute change in the component ratio. ΔX_{a1} is absolute change in the basic ratio caused by the change in the first (a1) component ratio.

$$\begin{aligned} \Delta X_{a1} &= \Delta a_1 \cdot a_{2,0} \cdot a_{3,0} \\ \Delta X_{a2} &= a_{1,1} \cdot \Delta a_2 \cdot a_{3,0}. \\ \Delta X_{a3} &= a_{1,1} \cdot a_{2,1} \cdot \Delta a_3 \end{aligned} \qquad (2.39)$$

2.5.2 Logarithmic decomposition method

The logarithmic decomposition method has distinct advantage comparing with method of gradual changes. There is only one formula for the impact quantification regardless of how

many component ratios it has. Supposing that X tokens basic ratio, ΔX means absolute change in the basic ratio. And $I_x = \frac{X_1}{X_0}$, $I_a = \frac{a_1}{a_0}$ symbolizes index of change in basic and index of change in component ratio.

It is calculated as follow:

$$\Delta X_{ai} = \frac{\ln I_{ai}}{\ln I_x} \cdot \Delta X . \tag{2.40}$$

2.5.3 Functional decomposition

The last method is functional decomposition. It works with the relative changes in basic and component ratios. R_x means the relative change in the basic ratio. R_{ai} means the relative change in the component ratio. They can expressed as the following formulas:

$$\begin{aligned} R_x &= \frac{X_1 - X_0}{X_0}, \\ R_{ai} &= \frac{a_1 - a_0}{a_0}. \end{aligned} \tag{2.41}$$

In the case of three component ratios, the impact of the component ratios on the basic ratio can be showed as follows:

$$\begin{aligned} \Delta X_{a1} &= \frac{1}{R_X} \cdot R_{a1} \cdot \left(1 + \frac{1}{2} \cdot R_{a2} + \frac{1}{2} \cdot R_{a3} + \frac{1}{3} \cdot R_{a2} \cdot R_{a3}\right) \cdot \Delta X, \\ \Delta X_{a2} &= \frac{1}{R_X} \cdot R_{a2} \cdot \left(1 + \frac{1}{2} \cdot R_{a1} + \frac{1}{2} \cdot R_{a3} + \frac{1}{3} \cdot R_{a1} \cdot R_{a3}\right) \cdot \Delta X, \\ \Delta X_{a3} &= \frac{1}{R_X} \cdot R_{a3} \cdot \left(1 + \frac{1}{2} \cdot R_{a1} + \frac{1}{2} \cdot R_{a2} + \frac{1}{3} \cdot R_{a1} \cdot R_{a2}\right) \cdot \Delta X. \end{aligned} \tag{2.42}$$

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3. Financial Characteristics of Daimler Company

In this chapter, we will introduce financial characteristics of Daimler company. In generally, it is used to evaluate whether a company is good. From financial characteristics, we can know the competitive advantages, management, investment and status in market. In the previous chapter, it has described many financial analysis methodology, which is basis of financial characteristics.

There are two parts of this chapter: company profile and common-size analysis of Daimler company.

3.1 Company profile

In this part, it will introduce Daimler company from the following three aspects: history, structures and competition.

"The Daimler Aktien Gesellschaft is one of the biggest producers of premium cars and the world's biggest manufacturer of commercial vehicles with a global reach. Daimler Financial services provides financing, leasing, fleet management, insurance financial investment, credit cards and innovative mobility services."[1]

The head quarter of Daimler AG is located in Stuttgart of Germany. Daimler company was constituted of several family businesses at the beginning. It main included the first car factory in the world founded by Karl Benz in 1883 and Daimler engine company founded by Gottlieb Daimler in 1890s. Both of them made many innovations in the ending of 19th century. Until the 1920s, these two companies were forced to be merged because of economic crisis. In 1926s, Daimler Company was set up.

The company brands include Mercedes-Benz, Mercedes-Benz Vans, Daimler Trucks and Daimler Financial Services. It has a great variety of trucks, special vehicles, motor coach and so on.

Daimler company cooperated with China North Industries Corp in 1980s. In 2005s, it established joint enterprise with Beijing Automotive Industry Holding Co.Ltd. And in 2012s,

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[1] *http://www.daimler.com/company/at-a-glance.html*

Foton Daimler Automotive company was established in Beijing.

3.1.1 History of Daimler company

From the automobile with Benz Patent Motorcar through to cars, and from Gottlieb Daimler working in his garden shed to setting up a global corporation, Daimler company provides automobile in more than 200 countries throughout the world. In 1890s, Daimler set up his own engine company, which was named as Daimler Motoren Gesellschaft (DMG). In 1899s, Daimler was advised to name motors produced by his company as “Mercedes”. In 1926s, Daimler and Benz were merged and founded Daimler-Benz, which takes a very important position in history of automobile. All the automobiles they produced are named as Mercedes-Benz. There was a long time that the brand of Daimler was holding by Ford Motor. But in 2007s, CEO of Daimler claimed that brand had been purchased back.

The cooperation between Daimler and China is more and more compact. In the last decade, Daimler company has cooperated with Beijing Automotive Industry Holding Co.Ltd and Foton. And Fujian Daimler Automotive is joint venture of Fujian Motors Group, China Motor Corp. and Daimler, which was founded in 2007.

3.1.2 Structures of Daimler company

Every company has different departments to maintain the ordinary working operations. And regulation and supervision section are very important. Structure of company is basis that ensures the operation, functions and department of company.

Board of management

In Daimler company, everyone in Board of management has different positions and responsibilities. Board of management is an vital organizational form of management organization. Board of management can be divided into integrated management committee and special management committee. Integrated management committee is responsible for drafting policies of all the company. Special management committee is limited in one or few position. Board of management is helpful to make decisions for managers. And it avoids being a law onto oneself.

Supervisory Board

As German Co-determination Law regulated, the Supervisory Board of Daimler AG is made up of twenty members. The half of them is elected by the stockholders and the others are representatives of the employees. And supervisory board has responsibility to decide the compensation of Board of Management. Controlling and monitoring of management, operating planning and determining important decisions are also the basic functions of Supervisory Board.

Directors' Dealings

According to the Investment Protection Improvement Act, Directors' dealing is obligated to notify and disclose transactions that involves members of board of management and supervisory board or members are related with them. And it stipulates when the value of shares over € 5000 per calendar year, Directors' Dealings should notify it.

3.1.3 Competition

Daimler company has many competitor in the world. For example, Volkswagen invented German civilian cars earlier than Daimler. And for the past many years, Daimler company's performance in Chinese market was behind Audi and BMW. The sales of Daimler company was lower than Audi and BMW. And Toyota Motor Corporation is another competitor of Daimler company. Toyota was planning to be the biggest producer of cars in Chinese market. Daimler company should do greater effort to catch up its competitors in Chinese market.

But Daimler company still has many advantages. Because Daimler AG is one of biggest car company of the world and the world's biggest manufacturer of commercial vehicles all over the world. And the long history makes it have well-deserved reputation. It has more advantages than many automobile companies. Proven technique is strength that can help it research and develop new products. In order to improve the competition, Daimler AG also made some strategy, like strengthening the core business, grow globally, leading in "green" technology, safety or connectivity and so on. On the other hand, Daimler company strengthen cooperation with China.

3.2 Common-size analysis of Daimler company

In this part, we will use the balance sheet and income statement of Daimler AG from 2011 to 2015. You can see the simple balance sheet in Tab 3.1, and intact balance sheet in Annex 1. The simplified income statement of Daimler AG is in Tab 3.2, complete income statement is in Annex 2.

Tab. 3.1 simple balance sheet of Daimler AG (in millions of €)

	2011	2012	2013	2014	2015
Non-current assets	40 623	42 763	44 748	43 772	39 259
Current assets	37 978	40 437	40 269	41 230	48 796
Other assets	97	177	259	256	257
Total assets	78 698	83 377	85 276	85 258	88 285
Equity	31 088	34 252	35 701	37 062	38 196
Long-term liabilities	14 492	12 302	12 619	11 861	13 742
Current liabilities	33 118	36 823	36 956	36 335	36 347
Total liabilities	47 610	49 125	49 575	48 196	50 089

Simplified balance sheet shows basic information about assets, equity and liabilities of Daimler company from 2011 to 2015. In this simplified balance sheet of Daimler AG, total assets consist of non-current assets, current assets and other assets. Equity plus liabilities equals to total assets. From simplified balance sheet we can see approximate financial situation of Daimler AG and changes from 2011 to 2015.

Tab. 3.2 Simplified income statement of Daimler AG (in millions of €)

	2011	2012	2013	2014	2015
Revenues	69 486	72 727	75 531	83 947	101 537
Cost of sales	59 562	64 600	67 579	75 307	91 733
Gross profit	9 924	8 127	7 952	8 640	9 804
Other income	5 128	6 000	5 679	6 782	6 949
Selling expenses	5 655	5 883	6 032	6 518	6 695
Administrative expenses	2 443	2 600	2 594	1 885	1 969
Other expenses	310	389	616	1 274	1 026
EBIT	6 644	5 255	4 389	5 745	7 063
Interest	1 186	146	879	751	2 408
EBT	5 458	5 109	3 510	4 994	4 655
Taxes	-701	366	203	-1 233	-900
EAT	4 757	5 475	3 713	3 771	3 755

From simplified income statement we can see revenues, other income expense and cost of Daimler company during five years. It compares the company´s revenues and company costs and the profit or loss during 2011 and 2015. Gross profit equals to revenues minus cost of sale. It shows the influences of interest and taxes in net income.

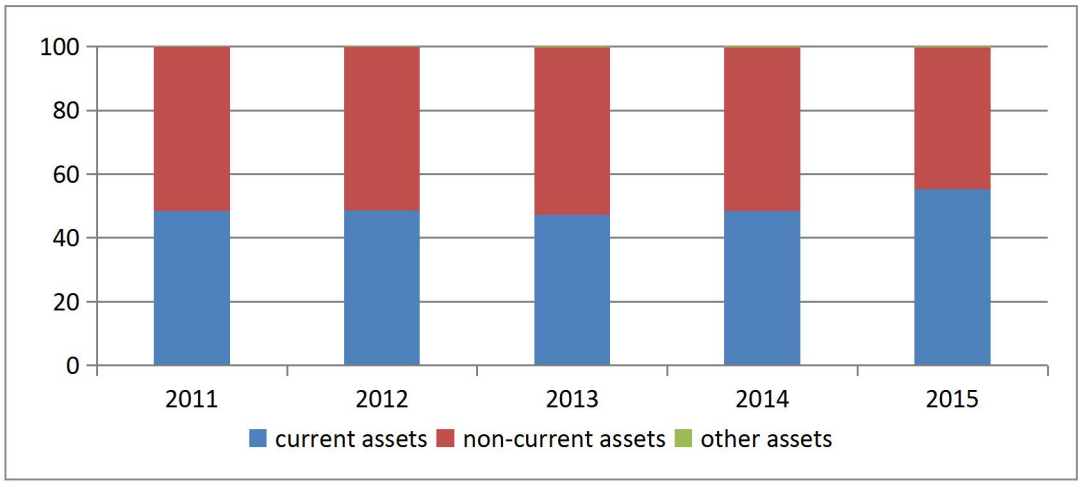
3.2.1 Vertical common-size analysis of Daimler company

In this part, it describes vertical common-size analysis of Daimler AG. It focuses on the internal structure of the statement. You can see the proportion of each item in total assets from 2011 to 2015. The result is expressed in Tab. 3.3, and the structure changes are showed in Chart 3.1.

T*ab. 3.3 The proportion of each item in total assets(%)*

	2011	2012	2013	2014	2015
Non-current assets	51.62	51.29	52.47	51.34	44.47
Current assets	48.26	48.50	47.22	48.36	55.24
Inventories	8.05	7.94	7.84	9.20	9.63
Receivables	34.08	32.07	33.85	35.17	43.43
Cash, cash equivalents	6,13	8.50	5.53	3.99	2.18
Other assets	0.12	0.21	0.31	0.3	0.29
Total assets	100.00	100.00	100.00	100.00	100.00

Chart 3.1 Vertical common-size analysis assets.



In the Tab. 3.3, we can see during the last 5 years, the cash and cash equivalent increased from 6.13% to 8.50% in 2012, but decreased from 8.50% to 2.18% during 2013 to 2015. On the contrary, receivables increased from 32.07% to 43.43% during 2012 and 2015. It might because the increasing of receivables signified the company cannot gain cash as soon as possible when products were sold. The main reason is that people is more likely to consume on credit with economy developing. And another reason of the account receivables increasing is growth of sales. The proportion of inventories changed as the same with accounts receivables: decreased from 8.05% to 7.84% during 2011 and 2013 but increased to 9.63% from 2014 and 2015. Because of the increasing of the sales scale and development of production technology, the company has to prepare more inventories to meet the needs of

customers.

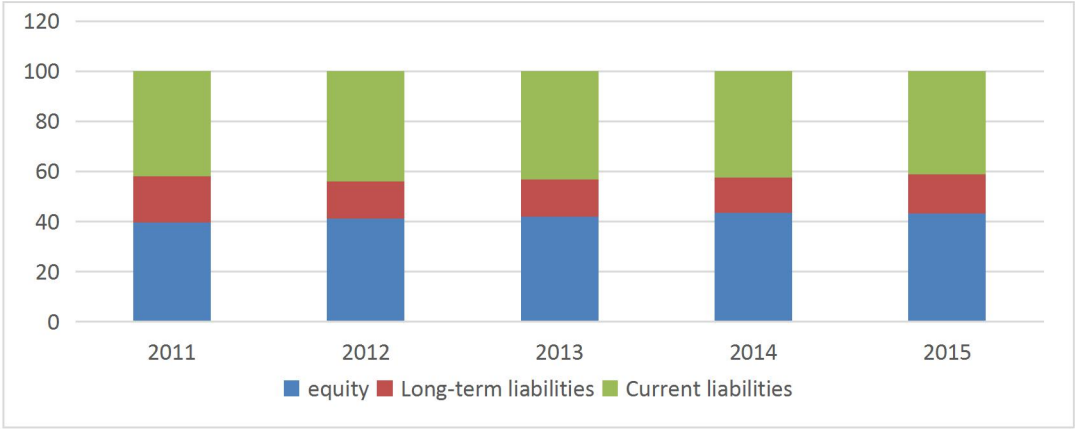
From the Tab. 3.3, it is obvious that current assets is greater than non-current assets only in 2015. The proportion of non-current assets is 44.47% and current assets is 55.24%. The decreasing of non-current primarily due to the lower amount of financial assets. This mainly reflects the merger of Daimler Lu-und Raumfahrt Holding AG into Daimler AG. And investments in property plant and equipment mainly comprise investments for the new products.

And then, there is the result of proportion of each item in total equity and liabilities. We can see the different percentage from 2011 to 2015 in Tab. 3.4 and Chart 3.2.

Tab. 3.4 The proportion of each item in total equity and liabilities(%).

	2011	2012	2013	2014	2015
Equity	39.51	41.08	41.86	43.47	43.26
Long-term liabilities	18.41	14.75	14.80	13.91	15,57
Current liabilities	42.08	44.16	43.34	42.62	41.17
Total liabilities	60.49	58.91	58.13	56.53	56.74
Total equity and liabilities	100.00	100.00	100.00	100.00	100.00

Chart 3.2 Vertical common-size analysis of equity and liabilities.



In the Tab. 3.4, we can see the equity is increasing from 39.51% to 43.26% from 2011 to 2015. This trend primarily resulted from the net profit from previous years. The net profit

from previous years were transferred to retained earnings as a part of equity. Long-term liabilities reduced from 18.41% to 13.91% from 2011 to 2014 and increased to 15.57% in 2015. On the contrary, current liabilities increased from 42.08% to 42.62% from 2011 to 2014 and decreased to 41.17% in 2015. And the liabilities is decreasing from 60.49% to 56.74% during the 5 years. Even though the proportion of total liabilities decreased gradually, it still higher than total equity. It means the most financing assets of Daimler company is from debt.

The next is vertical common-size analysis of income statement. The proportion of each item of revenues is in Tab. 3.5. And proportion of each item of expenses is in Tab. 3.6.

Tab. 3.5 vertical common-size analysis of revenues(%).

	2011	2012	2013	2014	2015
Sales	93.13	92.38	93.01	92.52	93.59
Other operating income	2.17	2.63	2.37	2.33	2.00
Income from investment	4.53	4.99	4.62	5.15	4.41
Other income	0.17	-	-	-	-
Total revenues	100.00	100.00	100.00	100.00	100.00

In Tab. 3.5, it is obvious that the sales are the main source of the total operating revenue. All proportion of sales in different years are over 90%. The proportion of sales fluctuates within a narrow rage. The range of change is not high. Other operating income increased to 2.63% in 2012 but decreased from 2.63% to 2.00% during the other years. It was mainly due to higher income from services charge to third parties. Because antitrust investigation results of the higher expenses, other operating income decreased from 2013 to 2015. Income from investment increased in 2012 and 2014, and decreased in the other three years. In 2014, the proportion of income from investment was 5.15%. It is the highest in five years. It is due to higher net income from investment in subsidiaries and associated companies.

Tab. 3.6 Vertical common-size analysis of expenses (%).

	2011	2012	2013	2014	2015
Cost of sales	87.63	87.92	87.97	88.61	88.35
Selling expenses	8.32	8.01	7.85	7.70	6.45
Administrative expenses	3.59	3.54	3.38	2.22	1.90
Other expenses	0.46	0.53	0.8	1.47	3.30
Total operating expenses	100.00	100.00	100.00	100.00	100.00

In Tab. 3.6, we can see cost of sales takes the largest proportion in total expenses according to the vertical common-size analysis. And it increased gradually from 87.63% to 88.61% during 2012 to 2014. In 2015, it decreased a little compared with 2014. Because increases in unit sales and expenses for new technologies and products led to high cost of sales. The higher business volumes and consequentially higher material costs also caused increasing of cost of sales. Selling expenses and general administrative expenses decreased from 8.32% to 6.45% and from 3.59% to 1.90% gradually year by year during 5 years. It was due to increasing of sales. Because of the new technologies and expansion of sales' scale, the cost of selling and administration would decrease.

Though other expenses takes a little proportion in total operating expenses, it was increasing in the last 5 years from 0.46% to 3.30%. It was mainly due to increases of sales, which would impact the utilities cost and so on.

3.2.2 Horizontal common-size analysis of Daimler company

In this part, it will describe horizontal common-size analysis of balance sheet of Daimler AG. we will compare items between each two years. You can see the changes of Daimler AG from 2011 to 2015. The absolute change is showed in Tab. 3.7. It uses the formula (2.7)

Tab. 3.7 Absolute change of each item in balance sheet(in millions of €)

	2011/2012	2012/2013	2013/2014	2014/2015
Non-current assets	2 140	1 985	-976	-4 513
Current assets	2 459	-168	961	7 566
Other assets	80	82	-3	1
Total assets	4 679	1 899	-18	3 027
Equity	3 164	1 449	1 361	1 134
Liabilities	1 515	450	-1 379	-1 107

The percentage change of each item of balance sheet is showed in Tab. 3.8. It is calculated by formula (2.8).

Tab. 3.8 Percentage change of each item in balance sheet

	2011/2012	2012/2013	2013/2014	2014/2015
Non-current assets	5.27%	4.64%	-2.18%	-10.31%
Current assets	6.47%	-0.42%	2.39%	18.35%
Other assets	82.47%	46.33%	-1.16%	0.39%
Total assets	5.95%	2.28%	-0.02%	3.55%
Equity	10.18%	4.23%	3.81%	3.06%
Liabilities	3.18%	0.92%	-2.78%	-2.30%

In Tab. 3.7 and Tab. 3.8, the non-current assets increased € 2 140 millions during 2012. It was caused by the investments in subsidiaries and associated companies. But non-current assets decreased by € 976 millions and declined about 2.18% in 2014, primarily due to the lower amount of financial assets. In current assets, between 2011 and 2012, it increased € 2 459 millions and 6.47%. The change is larger than the other years. It was due to the more inventories and accounts receivable because the company has to produce more automobiles to meet the demand of market. The biggest absolute change is € 7 566 millions and percentage change is 18.35% during 2015.

In equity, the biggest change is between 2011 and 2012. The equity increased € 3 164 millions and 10.18% compared with 2011. In 2013,2014 and 2015, though the equity was increasing gradually, the increment is less and less. The reason is that the net profit from previous was transferred to retained earnings as a part of equity. The liabilities increased € 1 515 millions and 3.18% between 2011 an 2012. It is because Daimler company borrowed more money to financing in order to meet its needs. In 2014 and 2015, Daimler company has less debt. Liabilities reduced € 1 379 millions and 2.78% in 2014 and reduced € 1 107 millions and 2.30%. It mainly due to the increasing of equity, Daimler company need not to hold so many debt to meet the company's needs.

Horizontal common-size analysis is also used in income statement. The absolute change and percentage change are showed in Tab. 3.9 and Tab. 3.10. It uses Tab. 3.2 and the formula (2.7) and (2.8).

Tab. 3.9 Absolute change in income statement(in millions of €)

	2011/2012	2012/2013	2013/2014	2014/2015
Revenues	3 241	2 804	8 416	17 590
Cost of sales	5 038	2 979	7 728	16 426
Gross profit	-1 797	-175	688	1 164
Other income	872	-321	1 103	167
Selling expenses	228	149	486	177
Administrative expenses	157	-6	-709	84
Other expenses	79	227	658	-248
EBIT	-1 389	-866	1 356	1 318
Interest	-1 040	733	-128	1 657
EBT	-349	-1 599	1 484	-339
Taxes	-335	-163	1 030	-333
EAT	718	-1 762	58	-16

Tab. 3.10 Percentage change of each item in consolidated income statement

	2011/2012	2012/2013	2013/2014	2014/2015
Revenues	4.66%	3.86%	11.14%	20.95%
Cost of sales	8.46%	4.61%	11.44%	21.81%
Gross profit	-18.11%	-2.15%	8.65%	13.47%
Other income	17.00%	-5.35%	19.42%	2.46%
Selling expenses	4.03%	2.53%	8.06%	2.72%
Administrative expenses	6.43%	-0.23%	-27.33%	4.46%
Other expenses	25.48%	58.35%	106.82%	-19.47%
EBIT	-20.91%	-16.48%	30.90%	22.94%
Interest	-87.69%	502.05%	-14.56%	220.64%
EBT	-6.39%	-31.30%	42.28%	-6.79%
Taxes	-49.79%	-44.54%	507.39%	-27.01%
EAT	15.09%	-32.18%	1.56%	-0.42%

In Tab. 3.9 and Tab. 3.10, the sales always are increased from 2011 to 2015. We can see the biggest absolute change is € 17 590 millions and percentage change is 20.95% in 2015. Because the Daimler AG cooperated with other companies and other countries, it sold more and more products. The cost of sales was increasing grater year by year. It increased € 16 426 millions and 21.81% compared with 2014. Because increases in unit sales and expenses for new technologies and products led to high cost of sales. The higher business volumes and consequentially higher material costs also caused increasing of cost of sales.

The changes of EAT are decreased in 2013 and 2015, and increased in 2012 and 2014. In 2012, EAT increased € 718 millions and 15.09%. It is because of the sales of shares and income tax benefits from the assessment of previous. In 2013, the EAT was less than 2012. It was mainly due to the high interest. The interest increased by 502.05% compared with 2012. Selling expenses and other expenses were also more than the last year. The change of EBIT is influenced by the cost and expenses. EBT is influenced by cost, expenses and interest. We can see interest decreased by € 1 040 millions and 87.69% in 2012. The main reason is that the demands of Mercedes Benz was not good in China and Europe. Daimler company decided to reduce the amount of products until the next generation of Mercedes Benz. And it also

stopped producing Maybach. The less product make Daimler company did not pay more interest. And from 2013 to 2015, because Daimler began to restore the production of new model of Mercedes Benz. In 2015, the interest changed a lot. Comparing with 2014, it increased € 1 657 millions and the percentage change is 220.64%. Daimler company cooperated with other companies of other countries. The demand of Daimler company's products was increasing, which make it produced more automobiles.

4. Financial Analysis of Daimler Company

In this chapter, we will assess the financial health of Daimler company by using financial ratios, which are described in chapter 2. This chapter is divided into six parts. The former five parts are profitability ratios of Daimler company, liquidity ratios of Daimler company, solvency ratios of Daimler company, asset management ratios of Daimler company and pyramidal decomposition of Daimler company. In the last part, we will summarize the ratios and financial of Daimler company.

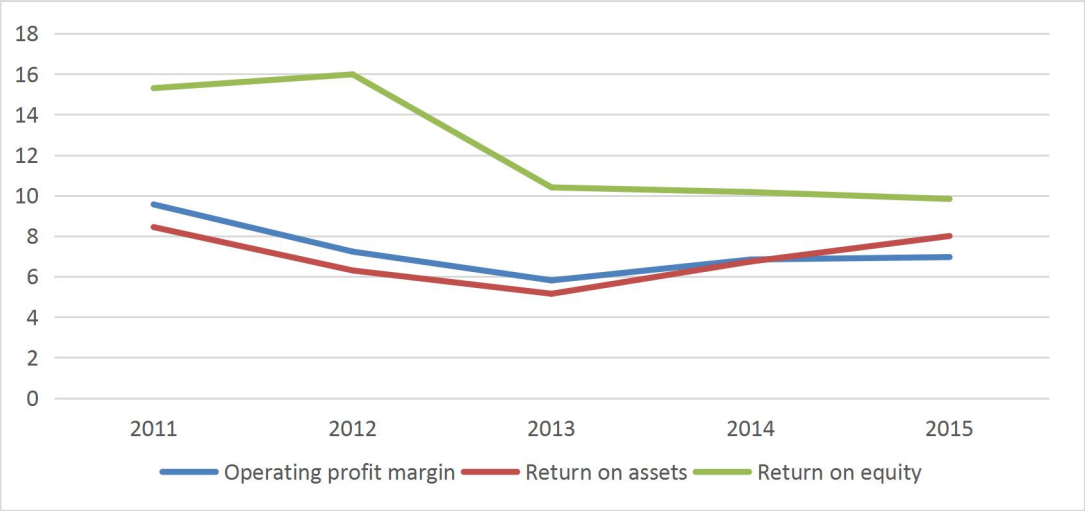
4.1 Profitability ratios of Daimler company

In this part, we calculate operating profit margin, return on assets and return on equity and evaluate the profitability of Daimler company during 2011 to 2015. The results of them in Tab. 4.1, and the trend of them is showed in Chart. 4.1.

Tab. 4.1 Profitability ratios of Daimler company (%).

	2011	2012	2013	2014	2015
Operating profit margin	9.56	7.23	5.81	6.84	6.96
Return on assets	8.44	6.30	5.15	6.74	8.00
Return on equity	15.30	15.98	10.40	10.17	9.83

Chart. 4.1 Trend of operating profit margin, return on assets and return on equity.



Operating profit margin

We can see the ratios decreased from 9.56% to 5.81% from 2011 to 2013. The main reason is that the revenues were increasing and EBIT were decreasing. And from 2013 to 2015, even though the revenues increased from €75 531 millions to €101 537 millions, EBIT also increased from €4 389 millions to €7 063 millions. So the operating profit margin was increasing. Because the Daimler AG cooperated with other companies and other countries, it sold more and more products. The revenues was increasing during this five years. But during 2011 to 2013, cost and expenses for new technologies were increasing more than income, so EBIT was decreased €2 255 millions. With maturity of technologies and improvement of management, cost and expenses were decreasing. So EBIT increased again. A high operating profit margin means the company has less financial risk. But the ratios of Daimler company is decreasing. It means its abilities to pay for fixed costs was falling off. It is adverse to Daimler company.

Return on assets

We can see the ratios decreased from 8.44% to 5.15% from 2011 to 2013. The main reason is that the total assets were increasing and EBIT were decreasing. And from 2013 to 2015, even though the total assets increased from € 85 276 millions to € 88 285 millions, EBIT increased from € 4 389 millions to € 7 063 millions. So the return on assets was increasing. The increasing of total assets is due to the company had more inventories, accounts receivable and buildings, equipment to produce more automobiles. The change of EBIT is the same as operating profit margin. The higher the return on assets, the better efficient usage of assets is. Though the ratio is trended to increase, ratio in 2015 is still lower than ratio on 2011. We can see the condition of profitability was not will good. But from the trend, the efficient use of assets will improve.

Return on equity

We can see that ratio increased from 15.30% to 15.98% from 2011 to 2012, but decreased from 15.98% to 9.83% after 2012. The main reason is that the decline of EAT. EAT increased from € 4 757 millions to € 5 475 millions from 2011 to 2012. After 2012, EAT

reduced from € 5 475 millions to €3 755 millions. Equity was increasing from €31 088 millions to € 38 196 millions. The reason is that the net profit from previous was transferred to retained earnings as a part of equity. But because of high interest and taxes, EAT decreased on the contrary. The low return on equity may make Daimler company loss some investments because investors generally are interested in firms that have high, increasing returns on equity.

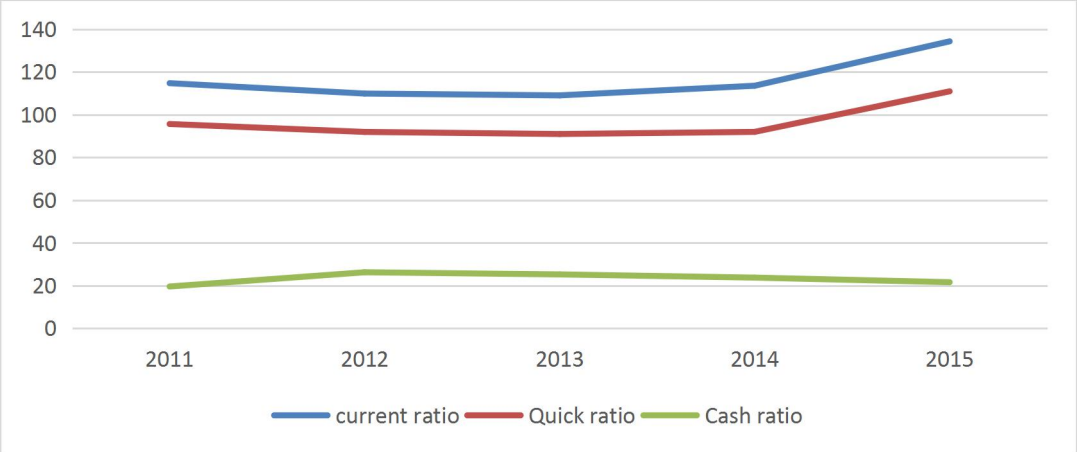
4.2 Liquidity ratios of Daimler company

In this part, we will calculate current ratio, quick ratio and cash ratio and evaluate the Daimler company's ability to meet its immediate and short-term obligations during 2011 to 2015. The results of liquidity ratios are showed in Tab. 4.2 and Chart. 4.2

Tab. 4.2 Liquidity ratios of Daimler company(%).

	2011	2012	2013	2014	2015
Current ratio	114.67	109.81	108.96	113.47	134.25
Quick ratio	95.56	91.86	90.88	91.88	110.86
Cash ratio	19.52	26.18	25.18	23.68	21.53

Chart. 4.2 Trend of current ratio, quick ratio and cash ratio.



Current ratio

We can see current ratio decreased from 114.67% to 108.96% from 2011 to 2013. The main reason is that the increase of current liabilities was larger than current assets. Current assets increased from € 37 978 millions to € 40 269 millions. Current liabilities increased

from € 33 118 millions to € 36 956 millions. It is because Daimler company borrow more short-term liabilities to meet the growth of company. The current ratio increased to 134.25% in 2015 because current assets increased rapidly than current liabilities. Current assets increased by € 7 566 millions and current liabilities increased by € 12 millions. During this period, inventories, cash, receivables were increasing with the development of company. Daimler has more customers. The higher the current ratio, the better the capable of paying its immediate and short-term obligation is. The current ratios of Daimler company are higher than 100%. It means its current assets are larger than current liabilities and Daimler company is able to pay its obligation.

Quick ratio

The quick ratio decreased from 95.56% to 90.88% during 2011 to 2013. It is because the increase of current liabilities was larger than current assets minus inventories. Current liabilities increased from € 33 118 millions to € 36 956 millions and current minus inventories increased from € 31 647 millions to € 33 587 millions. Daimler company borrowed more current liabilities because of growth of company. The quick ratio increased to 110.86% in 2015. During this period, cash and accounts receivable were increasing with the development of Daimler company. The quick ratios were lower than 100% during 2011 to 2014, it means that the Daimler company has not liquid assets to pay off the short-term liabilities. So company could sell inventories to meet this need.

Cash ratio

The cash ratio increased in 2012 from 19.52% to 26.18%. We can see cash and marketable securities increased from € 6 464 millions to € 9 642 millions. The main reason is that Daimler company needed to hold so much cash to pay off short-term liabilities. Cash ratios decreased during 2012 to 2015. Cash and marketable securities decreased from € 9 642 millions to € 7 824 millions. Because cash can not make profits, company would more like to invest than hold cash. And we can see the tendency of current ratio and quick ratio are opponent with cash ratio. It is because even though the company don’t like to hold cash, inventories and accounts receivable still increased.

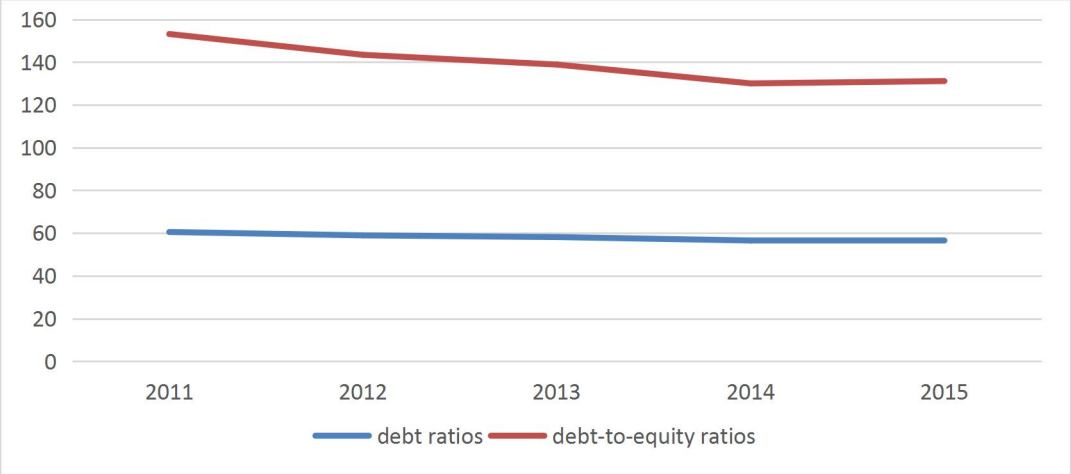
4.3 Solvency ratios of Daimler company

In this part, we will use debt ratios, debt-to-equity ratios and interest coverage to measure Daimler company's ability to meet its long-term obligations. We can see the results in the Tab. 4.3, Tab. 4.4 and Chart. 4.3.

Tab. 4.3 Debt ratios, debt-to-equity ratios of Daimler company(%).

	2011	2012	2013	2014	2015
Debt ratios	60.50	58.92	58.13	56.53	56.74
Debt-to-equity ratios	153.15	143.42	138.86	130.04	131.14

Chart. 4.3 trend of Debt ratios, debt-to-equity ratios of Daimler company(%).



Debt ratios

We can see debt ratios decreased from 60.5% to 56.53% during 2011 to 2014. It increased a little in 2015. In spite of debt was increasing, increase of total assets was larger than debt. Total debt increased from € 47 610 millions to € 49 575 millions from 2011 to 2013 and decreased a little in 2014. In 2015, total assets increased to € 50 089 millions. And total assets increased from € 78 698 millions to € 88 285 millions in this period. The main reason is that Daimler controlled the amount of money it borrowed from banks or bonds. The increasing of total assets is due to the company had more inventories, accounts receivable and buildings, equipment to produce more automobiles. The declining of debt ratio is benefit to equity investors. Less debt means the company could pay less assets back to debt. It is good for Daimler to keep low debt ratio. It can improve ability of pay off debt of company.

Debt-to-equity ratios

The results are showed in Tab. 4.3 and Chart. 4.3. We can see the trend of debt-to-equity ratio is similar with debt ratio. Debt-to-equity ratios decreased from 153.15% to 130.04%. It increased to 131.14% in 2015. The reason is similar with debt ratio. Equity increased from € 31 088 millions to € 38 196 millions during five years. The increase of equity is larger than total debt. It is because of more people would like to invest in Daimler company. The company gets more equity. The debt-to-equity ratio is high than 1. It means Daimler company has more debt for assets financing equity. Though the debt ratio has a good signal, the high debt-to-equity is also means the company is associated with high level of risk.

Interest coverage

Tab. 4.4 interest coverage of Daimler company.

	2011	2012	2103	2014	2015
Interest coverage	5.6020	35.9932	4.9932	7.6498	2.9331

The results are showed in Tab. 4.4. In Tab. 4.4 we can see interest coverage between 2011 and 2012 changed sharply. Because the interest in 2012 is less than other years a lot. EBIT reduced from € 6 644 millions to € 4 389 millions from 2011 to 2013 and increased to € 7 063 millions in 2015. In 2012, interest decreased by € 1 040 millions comparing with 2011. In this year, the demands of Mercedes Benz was not good in China and Europe. Daimler company decided to reduce the amount of products until the next generation of Mercedes Benz. And it also stopped producing Maybach. The less product make Daimler company did not pay more interest. That is why interest was little in 2012. And from 2013 to 2015, because Daimler began to restore the production of new model of Mercedes Benz. In 2015, the interest changed a lot. Comparing with 2014, it increased € 1 657 millions. Daimler company cooperated with other companies of other countries. The demand of Daimler company's products was increasing, which make it produced more automobiles. So interest coverage decreased to 2.9331 in 2015. The interest coverage are higher than the warning sign 2.5. It means Daimler company has few debt expenses. The profit of company could meet shareholders' dividend and other needs.

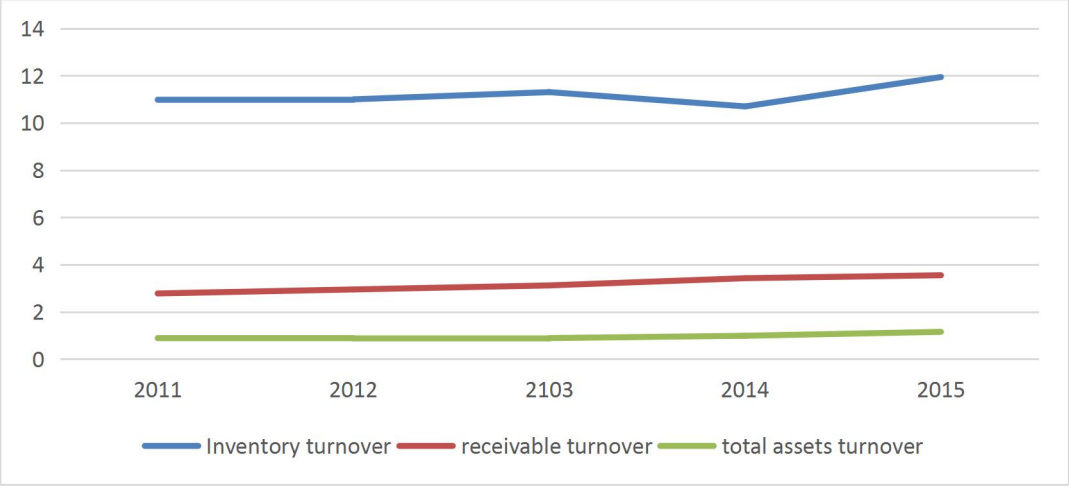
4.4 Asset management ratios of Daimler company

In this part, we introduce inventory turnover, receivable turnover, total assets turnover, days sales of inventory, average collection period and working capital turnover of Daimler company. Results are showed in the Tab. 4.5, Tab. 4.6,Tab. 4.7 and Chart. 4.4.

Tab. 4.5 Inventory turnover, receivable turnover, total assets turnover of Daimler company.

	2011	2012	2013	2014	2015
Inventory turnover	10.97552	10.99924	11.30365	10.69934	11.94131
Receivable turnover	2.775721	2.946441	3.116994	3.422218	3.547268
Total assets turnover	0.882945	0.872267	0.885724	0.984623	1.150105

Chart. 4.4. Trend of Inventory turnover, receivable turnover, total assets turnover



Inventory turnover

The results are showed in Tab. 4.5 and Chart. 4.4. We can see inventory turnover increased from 10.97552 to 11,30365 during 2011 and 2013. In 2014, it decreased to 10.69934. But in 2015, it increased to 11.94131 again. Inventory decreased from € 6 612 millions to € 6 682 millions during 2012 and 2013 but increased in 2014 and 2015. Because of the increasing of the sales scale and development of production technology, the company has to prepare more inventories to meet the needs of customers. Because automobiles are always expensive. Though the inventories was increasing, the revenue increased faster than inventories. From the data, we can see the inventory turnover is stable. It means the company

has a good sales and enough inventories.

Receivable turnover

We can see the receivable turnover was increasing from 2.775721 to 3.547268 during the five years continuously. The net credit sales are always changing bigger than accounts receivable. Net credit sales increased from € 69 486 millions to € 101 537 millions in five years. Inventory reduced from € 25 183 millions to € 24 183 millions between 2011 and 2012 and increased to € 32 469 millions in 2015. The increasing receivable turnover ratio means the efficient that Daimler company collects the accounts receivable is improving. It also means it has a high proportion of quality customers that pay off their debt quickly. It is a good signal for Daimler company.

Total assets turnover

We can see the total assets turnover was increasing from 0.882945 to 1.150105 during the five years continuously. The main reason is that the revenues increased faster than total assets. Because the Daimler AG cooperated with other companies and other countries, it sold more and more products. The revenues was increasing from € 69 486 to € 101 537 millions during this five years. Total assets increased from € 78 698 millions to € 88 285 millions. The increasing of total assets is due to the company had more inventories, accounts receivable and buildings, equipment to produce more automobiles. The increasing ratios is a good signal for Daimler company. Because a high ratio implies that the company is generating more revenues per unit of assets。

Tab. 4.6 Days sales of inventory and average collection period of Daimler company.

	2011	2012	2013	2014	2015
Days sales of inventory	33.2558	33.1841	32.2904	34.1143	30.5662
Average collection period	131.4974	123.8783	117.1	106.656	102.8961

Days sales of inventory

We can see that days sales of inventory decreased from 33.2558 to 32.2904 from 2011

to 2013 and increased to 34.1143 in 2014. Days sales of inventory equals days divided inventory ratios. The change is opposite to the inventory ratios. Daimler company's occupancy of inventories was low and it could turn inventories into cash quickly from 2011 to 2013. But it was not good in 2014. In 2015, days sales of inventory decreased to 30.5662, which means the speed of Daimler company's inventory converting became better than before.

Average collection period

We can see the average collection period is decreasing from 131.4974 to 102.8961 during 2011 and 2015. The reason is similar with receivable turnover ratio. It equals days divided receivable turnover ratios. So it is opposite to the receivable turnover ratios. A decreasing average collection period means Daimler company could sale its products and turn it into cash.

Working capital turnover

Tab. 4.7 Working capital turnover of Daimler company.

	2011	2012	2013	2014	2015
Working capital	4860	3614	3313	4895	12449
Working capital turnover	14.29753	20.12369	22.79837	17.14954	8.156237

We can see that working capital turnover increased from 2011 to 2013. But in 2015, it decreased a lot. the huge change of working capital is reason why the ratio decreased a lot in 2015. In current ratio we have mentioned about the changes between current assets and current liabilities. Even though sales were increasing all the time, current assets made a great growth in 2015. It is because Daimler company has more inventories, cash, receivables with the development of company. Daimler has more customers. But the sales was poor by comparing with the large amount of current assets.

4.5 Pyramidal decomposition of Daimler company

In this part, we apply DuPont analysis to consider the influences that different factors make for ROE. The results of net profit margin, assets turnover, financial leverage, tax burden,

interest burden and EBIT margin are showed in Tab. 4.8. And the absolute change of them during 2011 to 2015 is showed in Tab. 4.9.

Tab. 4.8 The value of each item of DuPont analysis.

	2011	2012	2103	2014	2015
Net profit margin	0.0685	0.0753	0.0492	0.0449	0.0370
Assets turnover	0.8829	0.8723	0.8857	0.9846	1.1501
Financial leverage	2.5315	2.4342	2.3886	2.3004	2.3114
Tax burden	0.8716	1.0716	1.0578	0.7551	0.8067
Interest burden	0.8215	0.9722	0.7997	0.8693	0.6591
Operating margin	0.0956	0.0723	0.0581	0.0684	0.0696

Tab. 4.9 Absolute change of each item in decomposition.

	2011/2012	2012/2013	2103/2104	2014/2015
Net profit margin	0.0068	-0.0261	-0.0042	-0.0079
Assets turnover	-0.0107	0.0135	0.0989	0.1655
Financial leverage	-0.0972	-0.0456	-0.0882	0.0110
Tax burden	0.2001	-0.0138	-0.3027	0.0516
Interest burden	0.1507	-0.1725	0.0696	-0.2102
Operating margin	-0.0234	-0.0141	0.0103	0.0011

After calculating the absolute change of each component ratio during 2011 to 2015. We will use method of gradual changes to quantify which component ratio contributed to the change in ROE at most. Net profit margin, assets turnover and financial leverage are component ratios. For example, we can see the method of gradual change between 2011 and 2012 in Tab. 4.10.

Tab. 4.10 Gradual changes of ROE between 2011 and 2012.

	2011	2012	2011/2012(△a)	△Xai	order
Net profit margin	0.0685	0.0753	0.0068	0.0152	1
Assets turnover	0.8829	0.8723	-0.0107	-0.0020	2
Financial leverage	2.5315	2.4342	-0.0972	-0.0064	3
Sum				-0.0068	

For a_1: $\Delta ROE_{a_1} = 0.0068 \cdot 0.8829 \cdot 2.5315 = 0.0052.$ (4.1)

For a_2: $\Delta \mathrm{ROE}_{a_2} = 0.0753 \cdot (-0.0107) \cdot 2.5315 = -0.0020.$ (4.2)

For a_3: $\Delta ROE_{a_3} = 0.0753 \cdot 0.8723 \cdot (-0.0972) = -0.0064.$ (4.3)

From the data is showed in Tab. 4.3, we can calculate the absolute change of ROE during 2011 to 2015. The results are showed in Tab. 4.11.

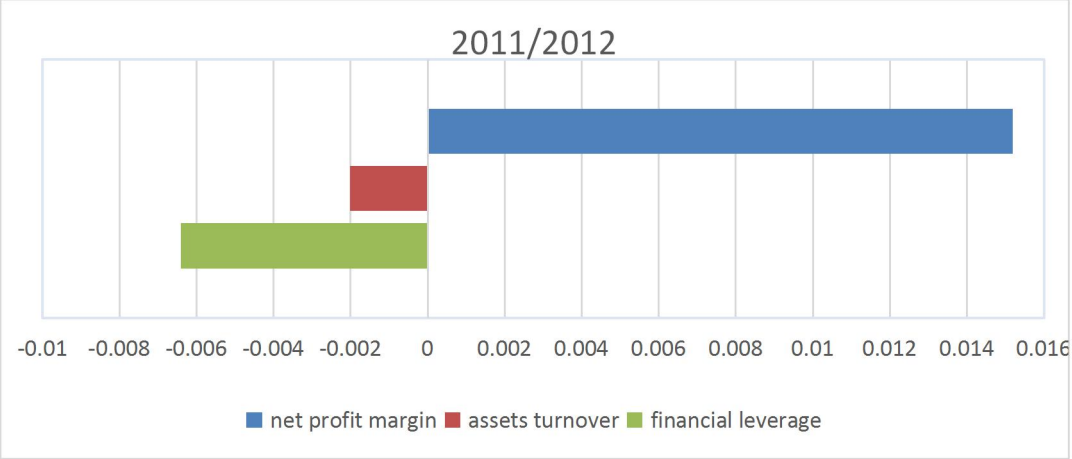
Tab. 4.11 absolute change of ROE during 2011 and 2015.

	2011/2012	2012/2013	2103/2104	2014/2015
Absolute change of ROE	0.0068	-0.0558	-0.0023	-0.0034

We can see that the sum is equal to the absolute change of ROE between 2011 to 2012. And the gradual changes of ROE between 2012 and 3015 are showed in Tab. 4.12, Tab. 4.13 and Tab. 4.14.

Now, we can compare these index, whose change have caused change in the ROE.

Chart. 4.5 Influence of each item between 2011 and 2012.



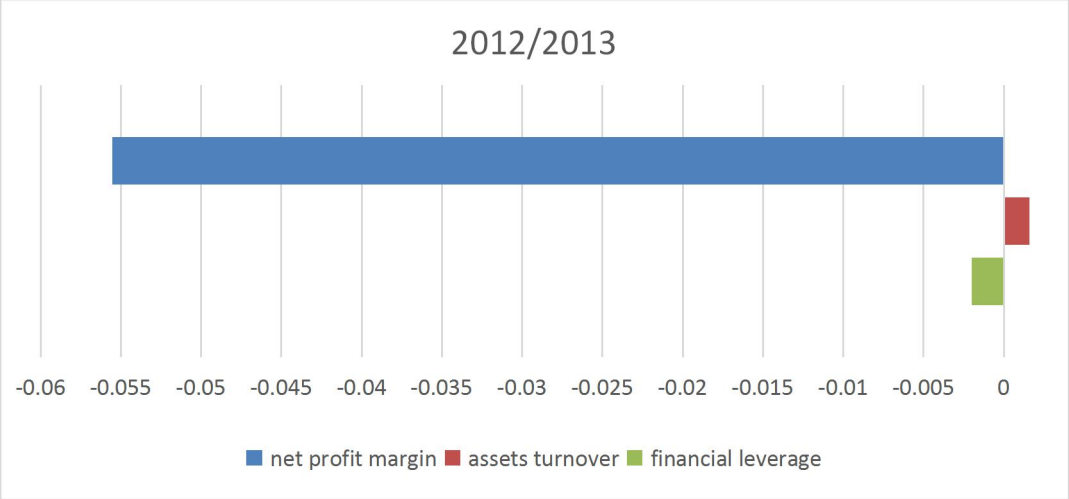
From Chart. 4.5, we can see △Xai of net profit margin is positive and the number is 0.0152 between 2011 and 2012. Net profit margin is relative with EBIT and revenues. Because the change of EBIT is larger than revenues. The net profit margin is increased. Net profit margin is 0.00152. The financial leverage and assets turnover is -0.0020 and -0.0064. They are negative, which result the negative change of ROE. Financial leverage is the minimum number of three composition ratios. It means the change of equity is higher than assets. According to these, Daimler company should increase financial leverage and assets

turnover to increase ROE.

Tab. 4.12 Gradual changes of ROE between 2012 and 2013.

	2012	2103	2012/2013(△a)	△Xai	order
Net profit margin	0.0753	0.0492	-0.0261	-0.0555	3
Assets turnover	0.8723	0.8857	0.0135	0.0016	1
Financial leverage	2.4342	2.3886	-0.0456	-0.0020	2
Sum				-0.0558	

Chart. 4.6 Influence of each item between 2012 and 2013.

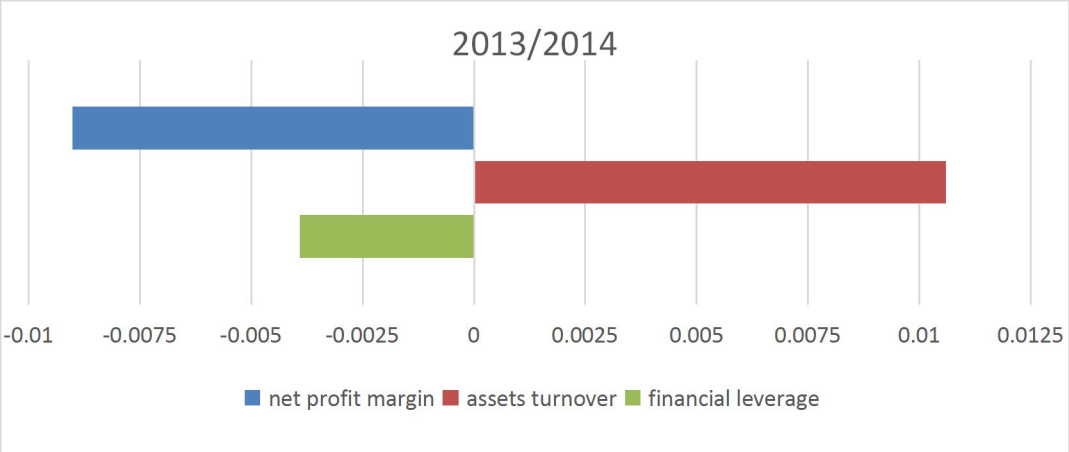


From chart. 4.6, we can see that △Xai of net profit margin is negative and the number is -0.0555 between 2012 and 2013. It is the minimum number of three composition ratios. Net profit margin is relative with EBIT and revenues. Because the change of EBIT is less than revenues. Assets turnover is 0.0016 and financial leverage is -0.0020. The net profit margin is decreased, which result the negative change of ROE mainly. According to these, Daimler company should increase △Xai of net profit margin to improve ROE.

Tab. 4.13 Gradual changes of ROE between 2013 and 2014.

	2013	2104	2013/2014(△a)	△Xai	order
Net profit margin	0.0492	0.0449	-0.0042	-0.0090	3
Assets turnover	0.8857	0.9846	0.0989	0.0106	1
Financial leverage	2.3886	2.3004	-0.0882	-0.0039	2
Sum				-0.0023	

Chart. 4.7 Influence of each item between 2013 and 2014.

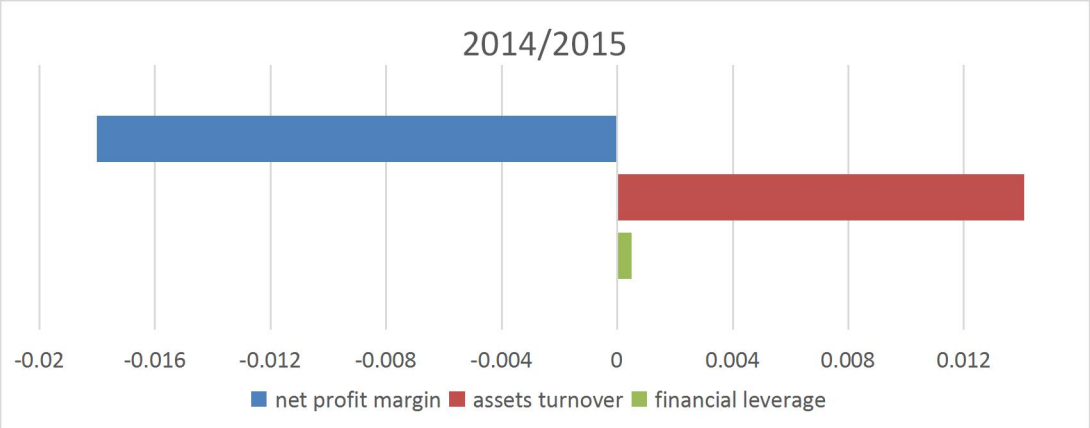


From Chart. 4.7, we can see △Xai of assets turnover are positive and the number is 0.0106. The △Xai of net profit margin is negative and the number is -0.0090 between 2013 and 2014, which results the negative change of ROE. Net profit margin is relative with EBIT and revenues. Because the change of EBIT is less than revenues. The net profit margin is decreased. It is the minimum number of three composition ratios. And financial leverage is also negative. According to these, Daimler company should increase financial leverage and net profit margin to increase ROE.

Tab. 4.14 Gradual changes of ROE between 2014 and 2015.

	2014	2105	2014/2015(△a)	△Xai	order
Net profit margin	0.0449	0.0370	-0.0079	-0.0180	3
Assets turnover	0.9846	1.1501	0.1655	0.0141	1
Financial leverage	2.3004	2.3114	0.0110	0.0005	2
Sum				-0.0034	

Chart. 4.8 Influence of each item between 2014 and 2015.



From Chart. 4.8, we can see that during 2014 and 2015, △Xai of net profit margin is negative and the number is -0.0180. It is the minimum number of three composition ratios. Net profit margin is relative with EBIT and revenues. Assets turnover and financial leverage is 0.0141 and 0.0005. Because the change of EBIT is less than revenues. The net profit margin is decreased, which result the negative change of ROE. Financial leverage and assets turnover are positive. But the change of ROE is still negative. The Daimler company should decline its cost and expenses to increase EBIT. And then, it can improve its ROE.

4.6 Summary

In this part, we will make financial analysis about Daimler company from four parts: profitability ratios, liquidity ratios, solvency ratios and assets management ratios.

The first is profitability ratios. The operating profit margin, return on assets and return on equity decreased between 2011 and 2012 from 9.56% to 5.81%, 8.44% to 5.15% and 15.30% to 10.40%. The main reason is EBIT and EAT are decreasing. It means that even though the Daimler company gain more revenues and assets, its costs and expenses are still increasing, which leads to the decrease of these ratios. And from 2013 to 2015, the operating profit margin and return are increasing but return on equity is decreasing. A high operating profit margin means the company has less financial and the higher the return on assets, the better efficient usage of assets is. In spite of operating profit margin and return on assets increased, they are still lower than 2011. And the low return on equity may make Daimler company loss some investments. From these compromises we can see the profitability of Daimler company is not good. Daimler company should try to manage the processes of production and sale to decline the cost and expenses.

The next is liquidity ratios. The trend of current ratio, quick ratio and cash ratio is similar to operating profit margin, return on assets and return on equity. It is because Daimler company borrow more short-term liabilities to meet the growth of company. And inventories, cash, receivables are increasing with the development of company. Daimler has more customers. The result in 2015 is still larger than 2011. It means the ability of Daimler company to pay its obligation is not bad.

About solvency ratios, the main trend of debt ratio and debt-to equity is decrease. Debt ratios decreased from 60.5% to 56.74% from 2011 to 2015. Debt-to-equity ratios decreased

from 153.15% to 131.14%. The increasing of assets and equity is larger than debt. Though the ratios are not in a normal range, they are approaching to the normal range. It is a good signal for Daimler company. The interest coverage are higher than the warning sign 2.5 during the five years. It means Daimler company has little debt expenses, especially in 2012. The profit of company could meet shareholders' dividend and other needs.

The last is assets management ratio. we divided it into three parts: turnover, days and the special one working capital ratio. We can see that receivable turnover ratio and total assets turnover are increasing from 2011 to 2015. Because the Daimler AG cooperated with other companies and other countries, it sold more and more products. The revenues was increasing during this five years. It is a good signal for Daimler company. The average collection period is decreasing from 131.4974 to 102.8961 during 2011 and 2015. The reason is similar with receivable turnover ratio. And the lower average collection period means the Daimler company takes less time to turn its receivables into cash. And working capital turnover increased from 2011 to 2013. But in 2015, it decreased a lot. It is because Daimler company has more inventories, cash, receivables with the development of company. Daimler has more customers. But it shows the sales was poor by comparing with the large amount of current assets.

5. Conclusion

From what we have analyzed above chapters, we can judge the situation of Daimler company's financial position and find out what should be improved. For managers, they evaluate the company's financial conditions and operating results by doing financial analysis. It helps managers make important operating decisions, like whether the company should finance, invest or switch to other production. For investors, they decide whether they should invest more capital, transfer shares by analyzing condition of production and management. Creditors make judgment whether the company is worth loaning.

The aim of this thesis was evaluating financial condition of Daimler company from 2011 to 2015 by using common-size analysis, financial ratios and pyramidal decomposition.

The thesis divided into five parts. The first chapter is introduction and the last chapter is conclusion. The second chapter is description of financial. The third chapter is about Daimler company. The fourth chapter is calculations and evaluation.

In chapter 2, it described financial statements, common-size analysis, financial ratios, DuPont analysis and influence quantification. There are three financial statements: Balance sheet, income statement and cash flow statement. We described the mainly items and relationship of them. Secondly, we introduced horizontal common-size and vertical common-size. Vertical common-size identifies one certain item in the proportions of selected benchmarks. Horizontal common-size described absolute change and relative change of each item. Then, we introduced profitability ratio, liquidity ratio,solvency ratio and asset management ratio. We described and listed formulas of them. DuPont analysis is fundamental example of pyramidal decomposition. We described other factors which can influence ROE. The influence quantification divided into three methods:method of gradual changes, logarithmic decomposition method and functional decomposition. We introduced the formulas and definition of them.

In chapter 3, we introduced financial characteristics of Daimler company. Firstly, we described the profile and development of Daimler company. Daimler company has board of management, supervisory board and director's dealings to maintain the ordinary working operations. Then, we used simplified balance sheet and income statement to do vertical common-size analysis and horizontal common-size analysis. In vertical common-size, we

calculated the proportion of each item in selected benchmarks. We compared each item in the same year. In horizontal common-size, we compared each item in different years. We calculated the absolute change and percentage change between two different years from 2011 to 2015. And we described the reasons why the differences existed.

In chapter 4, we used financial analysis which have introduced in chapter 2. We calculated some key financial ratios to assess the profitability, liquidity, debt paying ability and assets management ability. The results were showed in tables and charts. We described reasons why the ratios changed and evaluate if these ratios were good signs or not for Daimler company. Finally, we used DuPont analysis to analyze how net profit margin, assets turnover and financial leverage influenced ROE. We described influence in two different years from 2011 to 2015.

From what we had analyzed in the previous chapters, we could make a conclusion that the Daimler company's financial position was not good from 2011 to 2015. The profitability of Daimler company was not very well during these five year, like return on equity decreased from 15.30% to 9.83%. It means Daimler company could not obtain enough profit to meet investors' needs. It also means Daimler might have some problems to solve its financial needs. Liquidity of Daimler increased during 2011 and 2015. Current ratio increased from 114.67% to 134.25%, quick ratio increased from 95.56% to 110.86%, cash ratio increased from 19.52% to 21.53%. It means that it had ability to meet its immediate and short-term obligation. And debt paying ability of Daimler was pretty good during the period. Debt ratio decreased from 60.50% to 56.74%, debt-to equity ratio decreased from 153.15% to 131.14%. Daimler company kept low debt ratio was good to pay for its long-term obligation. The assets management was still good during this period. It means that Daimler used its assets effectively. Daimler company is one of the biggest manufacturers of automobile all over the world. But the financial condition of it was not good during 2011 and 2015. It mainly due to the great competition between other company in automobile industry. Daimler should to innovate and pay attention to product's details of design. On the other way, the awareness of environmental protection of people is greater and greater. It might be another reason why the financial position weaker.

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List of Abbreviations

ACP	Average collection period
APT	Receivable turnover ratio
DPO	Days payable outstanding
DSI	Days sales of inventory
FAT	Fixed assets turnover
GPM	Gross profit margin
IT	Inventory turnover
NPM	Net profit margin
OPM	Operating profit margin
ROA	Return on assets
ROE	Return on equity
ROIC	Return on invested capital
TAT	Total assets turnover

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Xinyi Zhu 朱欣怡

Student's name and surname

List of Annexes

Annexes

Annex1: Complete balance sheet of Daimler Company(in millions of €).

	2011	2012	2013	2014	2015
NON-CURRENT ASSETS	40 623	42 763	44 748	43 772	39 259
Intangiable assets	372	528	961	928	1 005
Property,plant and equipment	6 718	7 992	7 992	8 201	8 398
Financial assets	33 533	35 795	35 795	34 641	29 858
CURRENT ASSETS	37 978	40 437	40 269	41 230	48 769
Inventories	6 331	6 612	6 682	7 846	8 503
Trade receivable	1 833	1 791	1 940	2 216	2 495
Receivables from subsidiaries	20 283	19 462	19 482	20 062	26 673
Other receivable and assets	3 067	2 930	2 859	2 501	3 274
Securities	1 637	2 553	4 588	5 206	5 899
Cash and cash equivalents	4 827	7 089	4 718	3 399	1 925
Prepaid expenses	97	177	259	256	257
EQUITY	31 088	34 252	35 701	37 062	38 196
Share capital	3 060	3 063	3 069	3 070	3 070
Capital reserve	11 351	11 390	11 477	11 480	11 480
Retained earnings	14 298	17 061	18 748	19 891	20 169
Distributable profit	2 379	2 738	2 407	2 621	3 477
PROVISION	14 492	12 302	12 619	11 861	13 742
Provisions for pensions	3 313	3 097	3 405	1 391	1 931
Other provision	11 179	9 205	9 214	10 470	11 811
LIABILITIES	32 537	36 387	36 463	35 791	35 752
Trade payables	5 175	5 004	5 352	5 412	5 098
Liabilities to subsidiaries	19 302	17 468	12 774	10 141	6 640
Other liabilities	8 059	13 915	18 337	20 238	24 014
Deffered income	582	436	493	544	595

Annex2: Complete income statement of Daimler Company(in millions of €).

	2011	2012	2013	2014	2015
Revenue	69 486	72 727	75 531	83 947	101 537
Cost of sales	-59 562	-64 600	-67 579	-75 307	-91 733
Gross profit	9 924	8 127	7 952	8 640	9 804
Selling expenses	-5 655	-5 883	-6 032	-6 518	-6 695
General administrative	-2 443	-2 600	-2 594	-1 885	-1 969
Other operating income	1 619	2 072	1 921	2 117	2 174
Other operating expenses	-310	-317	-424	-995	-733
Income from investments	3 378	3 928	3 758	4 665	4 775
Interest expenses	-1 186	-146	-879	-751	-2 408
Other financial financial income/expense	131	-72	-192	-279	-293
Income from ordinary activities	5 458	5 109	3 510	4 994	4 655
Income taxes	-701	366	203	-1 223	-900
Net income	4 757	5 475	3713	3 771	3 755
Transfer to retained earning	-2 378	-2 737	-1 306	-1 150	-278
Distributable profit	2 379	2 738	2 407	2 621	3 477